

Please add claims 22 through 46 as follows:

22. An antenna control system for a land-based mobile radio system comprising:

- a sensor for detecting a position of a down-tilt antenna with respect to cell coverage and without respect to a satellite position;
- an antenna controller communicating with said sensor for controlling said antenna position; and
- a main controller communicating with said antenna controller in order to control said antenna controller.

23. The antenna control system according to claim 22, wherein said main controller is remotely located from said down-tilt antenna.

B' 24. The antenna control system according to claim 22, further comprising a user interface communicating with said main controller to operate said main controller.

25. The antenna control system according to claim 23, wherein a user interface transmits data to said main controller to position said down-tilt antenna and receives data from said main controller indicating said antenna position.

26. The antenna control system according to claim 25, wherein said main controller informs said user interface that said main controller is unable to communicate with said antenna controller.

27. The antenna control system according to claim 25, wherein said main controller informs said user interface that it is unable to adjust said antenna position to a desired antenna position.

28. The antenna control system according to claim 22, further comprising an antenna controller memory connected to said antenna controller for storing at least one of an antenna address and said antenna position.

29. The antenna control system according to claim 22, further comprising a main controller memory connected to said main controller for storing at least one of an antenna address and said antenna position.

30. The antenna control system according to claim 22, further comprising:
a motor for adjusting said antenna position; and
a driver connected to said motor and said antenna controller for activating said motor.

31. An antenna control system for controlling a plurality of antennas comprising:

a plurality of sensors each for detecting positions of a respective one of said antennas;

a plurality of antenna controllers each communicating with corresponding sensors of said plurality of sensors for controlling a position of said associated antenna; and

a main controller communicating with said antenna controllers in order to control said antenna controllers.

32. The antenna control system according to claim 31 further comprising a serial interface connecting said main controller and said antenna controllers.

33. The antenna control system according to claim 31 further comprising a parallel interface connecting said main controller to each of said antenna controllers.

34. The antenna control system according to claim 31, further comprising a wireless communication interface including a plurality of transceivers individually connected to respective antenna controllers of said plurality of antenna controllers and a transceiver connected to said main controller for providing communications between said plurality of antenna controllers and said main controller.

35. The antenna control system according to claim 31, further comprising a plurality of antenna controller memories, wherein each antenna controller memory is respectively connected to each of said plurality of antenna controllers for storing at least one of an antenna address and said antenna position.

B' 36. The antenna control system according to claim 31, further comprising a main controller memory connected to said main controller for storing at least one of an antenna address, and said antenna position.

37. The antenna system according to claim 31, further comprising:
a plurality of motors each for adjusting said position of the associated antennas; and
a driver connected to each of said plurality of motors for driving said plurality of motors.

38. An antenna control system for controlling a plurality of antennas located on a tower, each antenna having a position, said antenna control system comprising:

a plurality of sensors, each sensor associated with one of said plurality of antennas for detecting said antenna positions;

a plurality of antenna controllers each connected to a respective one of said plurality of sensors for reading said detected antenna positions and for adjusting said antenna positions based on said detected antenna positions; and

a main controller communicating with said plurality of antenna controllers for controlling said plurality of antenna controllers to adjust said antenna positions.

39. An antenna control system according to claim 38, wherein said main controller is remotely located from said plurality of antenna controllers.

40. An antenna control system according to claim 38, wherein said main controller is remotely located from said tower.

41. The antenna control system according to claim 38, further comprising, a plurality of motor driving assemblies for adjusting said antenna positions, wherein each of said plurality of motor driving assemblies are controlled by respective ones of said plurality of antenna controllers.

42. The antenna control system according to claim 41, wherein the motor driving assemblies comprise a gear train of phase shifters to steer radiation emitted from said antennas; a stepper motor to drive said gear train of phase shifters; a gear shaft disposed between said gear train and said stepper motor; and a stepper-motor-driver for powering said stepper motor.

43. A method of positioning a down-tilt antenna in an antenna control system used in land-based mobile communications, said antenna control system including a main controller, an antenna controller, an antenna motor driver assembly, and a sensor, said method comprising:

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- (A) establishing a current position of said down-tilt antenna by;
 - (i) sending an antenna check command to said antenna controller,
 - (ii) reading a tilt position stored in a memory of said antenna controller, and
 - (iii) sending the tilt position read from said memory to said main controller; and
 - (B) adjusting the tilt of the down-tilt antenna by;
 - (i) sending a change-tilt command to said main controller,
 - (ii) calculating a difference between said tilt position and said change-tilt command to determine an antenna adjust command, and
 - (iii) sending said antenna adjust command to said antenna motor driver assembly to adjust the tilt of the down-tilt antenna.

44. The method according to claim 43, wherein step (B) further comprises,
- (iv) reading the newly adjusted tilt position of said antenna via said sensor, and
 - (v) writing said newly adjusted tilt position as said tilt position in said memory of said antenna controller.

45. A method of performing a system check on a tilt antenna control system having a main controller, a plurality of antenna controllers, and a user interface, said method comprising:
- (A) requesting a system check by a user via said user interface;
 - (B) transmitting an antenna check command from said main controller to an addressed one of said plurality of antenna controllers;
 - (C) returning an antenna position from said addressed antenna controller to said main controller; and
 - (D) determining whether the addressed antenna controller responded.

B' 46. A method of performing a tilt setting change on an antenna system which includes a main controller, a plurality of antenna controllers, a plurality of down-tilt antennas each associated to one of said plurality of antenna controllers, and a user interface, said method comprising:

(A) transmitting a tilt setting change command, selected by a user, from said user interface to said main controller; and

(B) transmitting a change tilt command combined with an antenna controller address from said main controller to an addressed antenna controller of said plurality of antenna controllers.
